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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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WOLF GREENFIELD & SACKS, PC  
FEDERAL RESERVE PLAZA  
600 ATLANTIC AVENUE  
BOSTON, MA 02210-2206

EXAMINER

TRAN, CHUC

ART UNIT PAPER NUMBER

2821

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/678,971

Applicant(s)

MUELLER ET AL.

Examiner

Chuc D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 4,6-61,63-116,120,122-178,180-226 and 228-234 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4,6-34,109-116,120,122-150,226 and 228-234 is/are allowed.
- 6) ☒ Claim(s) 35-39,73,74,105-108,151-155,190,191,200-206,208-210 and 222-225 is/are rejected.
- 7) ☒ Claim(s) 40-61,63-72,75-82,90,94-104,156-178,180-189,192-199,207 and 211-221 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 05/17/04,02/14/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant should submit an argument under the heading "Remarks" pointing out disagreements with the examiner's contentions. Applicant must also discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 35-39, 73-74, 83-89, 91-93, 105-108, 131-142, 151-155, 190-191, 200-206, 208-210 and 222-225 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen et al in view of Duarte (USP. 5,559,681).

Regarding claims 35, 39, 73-74, 151, 155 and 190-191, Bowen et al a lighting system as set forth in the claim except the light source includes a plurality of LEDs selected from the group consisting of red, green, blue, amber, white, orange, and UV, and the light engine includes a processor, wherein the processor is selected from a microprocessor. Duarte disclose a flexible modular lighting system comprising the light source includes a plurality of LEDs selected from the group consisting of red, green, blue, amber, white, orange, and UV (Duarte. Col. 6, Line 1 and Abstract) and the light engine includes a processor, wherein the processor is selected from a microprocessor (Duarte. Col.

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6, Line 14). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bowen's lighting system by using the controller is a microprocessor as taught by Duarte. The ordinary artisan would have been motivated Bowen et al in the manner described above for providing intermittent flash, twinkle, fade on/off or chasing lighting sequences in the string of lights (Duarte. Col. 1, Line 16 and Col. 2, Line 48).

Regarding claim 36, Bowen et al disclose that the light source is configured in a linear configuration (Col. 1, Line 7).

Regarding claim 37, Bowen et al disclose that the light source is configured as an array (Col. 1, Line 8).

Regarding claim 38, Bowen et al disclose that the light source is configured in a curvilinear configuration (Col. 3, Line 61).

Regarding claim 83, Bowen et al disclose that the light engine is an addressable light engine (Fig. 4).

Regarding claim 84, Bowen et al disclose that the conduit comprises modular sub-elements that can be fitted together to form shapes (Fig. 4-6).

Regarding claim 85, Bowen et al disclose that the sub-elements are selected from the group consisting of V-shaped elements, L-shaped elements, T-shaped elements, curved elements, and straight elements (Fig. 4-6).

Regarding claim 86, Bowen et al disclose that the sub-elements are fitted together in combinations (Fig. 4-6).

Regarding claim 87, Bowen et al disclose that the sub-elements are provided in a kit with

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the at least one light engine (Fig. 4).

Regarding claim 88, Bowen et al disclose that a user can shape the sub-elements into a desired shape (Fig. 4).

Regarding claim 89, Bowen et al disclose that at least one light engine includes a plurality of light engines (Fig. 4).

Regarding claim 91, Bowen et al disclose that the plurality of light engines are configured so as to generate the light in synchronous fashion (Fig. 4).

Regarding claim 92, Bowen et al disclose that the plurality of light engines change colors in concert (Col. 1, Line 14).

Regarding claim 93, Bowen et al disclose that at least one light engine includes two light engines respectively disposed proximate to the first end and the second end (Fig. 2).

Regarding claim 105, Bowen et al disclose that the conduit is configured to form a sign with lettering (Fig. 4).

Regarding claim 106, Bowen et al disclose that the at least one light engine includes a plurality of light engines that are disposed throughout the sign to generate the light (Fig. 4).

Regarding claim 107, Bowen et al disclose that a plurality of second light engines spaced apart from each other along the length of the conduit (Fig. 2).

Regarding claim 108, Bowen et al disclose that the sign is configured to resemble a conventional neon sign (Fig. 4).

Claims (method) 120, 131-142, 151-154, 190-191, 210 and 222-225 given the apparatus of a lighting system as applied to claims 35-38 (apparatus), the method for the apparatus as claimed in claims 120, 131-142, 151-154, 190-191, 210 and 222-225 are inherent.

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Regarding claim 120, Bowen et al disclose a method of lighting an assembly in Fig. 2 and 4 comprised of a plurality of conduits each having an at least partially transparent outer surface and each being configured to be connected together in a modular fashion to form the assembly, the method comprising:

- generating light by a plurality of light engines spaced apart from each other within the assembly so that the generated light travels within and along a length of at least one conduit of the assembly (Col. 2, Line 60); and passing at least some of the generated light from at least one light engine of the plurality of light engines through the outer surface of the at least one conduit along the length of and around a perimeter of the at least one conduit (Col. 2, Line 55).

Regarding claim 131, Bowen et al disclose that the assembly is configured such that the generated light passes substantially unobstructed from a first inner portion of one conduit of the assembly to an adjacent inner portion of an adjacent conduit of the assembly (Col. 2, Line 60).

Regarding claim 132, Bowen et al disclose that at least one conduit of the plurality of conduits is made of an elastic material suitable for receiving and retransmitting the light (Col. 2, Line 61).

Regarding claim 133, Bowen et al disclose that at least one of the plurality of conduits is a flexible conduit (Col. 2, Line 56).

Regarding claim 134, Bowen et al disclose that at least one of the plurality of conduits is transparent (Col. 2, Line 60).

Regarding claim 135, Bowen et al disclose that at least one of the plurality of conduits is semi-opaque (Col. 2, Line 60).

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Regarding claim 136, Bowen et al disclose that at least one of the plurality of conduits is translucent (Col. 2, Line 60).

Regarding claim 138, Bowen et al disclose that at least one of the plurality of conduit is refractive (Col. 2, Line 61).

Regarding claim 139, Bowen et al disclose that at least one of the plurality of conduits is a transparent elastic material (Col. 2, Line 56).

Regarding claim 140, Bowen et al disclose that at least one of the plurality of conduits is elastomeric vinyl acetate (Col. 2, Line 56).

Regarding claim 141, Bowen et al disclose that at least one of the plurality of conduits is made from a material selected from the group consisting of a plastic (Col. 2, Line 61).

Regarding claim 142, Bowen et al disclose that at least one of the plurality of conduits is made from a hybrid of a plurality of materials (Fig. 2).

Regarding claim 152, Bowen et al disclose that the light source is configured in a linear Configuration (Col. 1, Line 7).

Regarding claim 153, Bowen et al disclose that the light source is configured as an array (Col. 1, Line 12).

Regarding claim 154, Bowen et al disclose that the light source is configured in a curvilinear configuration (Fig. 4).

Regarding claim 200, Bowen et al disclose that the light engine is an addressable light engine (Fig. 4).

Regarding claim 201, Bowen et al disclose that modular sub-elements that can be fitted together to form shapes (Fig. 4).

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Regarding claim 202, Bowen et al disclose that the sub-elements are selected from the group consisting of V-shaped elements, L-shaped elements, T-shaped elements, curved elements, and straight elements (Fig. 2-6).

Regarding claim 203, Bowen et al disclose that the sub-elements are fitted together in combinations (Fig. 2).

Regarding claim 204, Bowen et al disclose that the sub-elements are provided in a kit with the at least one light engine (Fig. 4).

Regarding claim 205, Bowen et al disclose that the a user can shape the sub-elements into a desired shape (Fig. 4).

Regarding claim 206, Bowen et al disclose that at least one light engine includes a plurality of light engines (Fig. 2).

Regarding claim 208, Bowen et al disclose that the plurality of light engines are configured so as to generate the generated light e-conduit in synchronous fashion (Fig. 4).

Regarding claim 209, Bowen et al disclose that the plurality of light engines change colors in concert (Col. 3, Line 3).

Regarding claim 210, Bowen et al disclose that at least one light engine includes two light engines respectively disposed proximate to the first end and the second end (Fig. 2).

Regarding claim 222, Bowen et al disclose that the conduit is configured to form a sign with lettering (Col. 1, Line 15).

Regarding claim 223, Bowen et al disclose that the at least one light engine includes a plurality of light engines that are disposed throughout the sign to generate the generated light (Col. 2, Line 56).



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Regarding claim 224, Bowen et al disclose that light engines from a plurality of second light engines are spaced apart from each other along the length of the conduit (Fig. 2).

Regarding claim 225, Bowen et al disclose that the sign is configured to resemble a conventional neon sign (Fig. 2).

***Allowable Subject Matter***

4. Claims 4, 6-34, 120, 122-150, 109-116, 226 and 228-234 are allowed.

***Reasons for Allowance***

5. The following is an examiner's statement of reasons for allowance:

Prior art fails to disclose or suggest the combination of the limitations as set forth in claims 4, 109 and 120: at least one conduit lit by a first color-changing illumination from a first light engine having a first controller and at least one first LED; and at least one element lit by a second color-changing illumination from a second light engine having a second controller and at least one second LED; wherein the at least one conduit is placed in a viewing path in front of and at least partially blocking the second at least one element so as to produce illumination effects that represent the combination of the at least one conduit and the at least one element.

Claims 6-34, 110-116 and 122-150 are allowed for the reasons given above because of their dependency status from independent claims 4, 109 and 120.

Prior art fails to disclose or suggest the combination of the limitations as set forth in claim 226: lighting at least one element by a second color-changing illumination from a second light engine having a second controller and at least one second LED, wherein the at least one conduit is placed in a viewing path in front of and at least partially blocking the at least one

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element so as to produce illumination effects that represent the combination of the at least one conduit and the at least one element.

Claims 228-234 are allowed for the reasons given above because of their dependency status from independent claim 226.

Claims 6-14, 27-34, 40-61, 63-72, 75-82, 90, 94-104, 122-130, 143-150, 156-178, 180-189, 192-199, 207 and 211-221 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Citation of relevant prior art***

Prior art Hed (USP. 5,301,090) disclose luminaire.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC  
October 02, 2006

*shih-chao chen*  
**SHIH-CHAO CHEN**  
**PRIMARY EXAMINER**